

## INTERNATIONAL SEARCH REPORT

Inter nal Application No

PC 17 1B2004/052332

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H02M3/335

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H02M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 373 722 B1 (MALIK RANDHIR S ET AL) 16 April 2002 (2002-04-16)	1
Y	column 3, lines 5-15 claim 1 figure 2	2-5,7
Y	DE 32 10 567 A1 (ANT NACHRICHTENTECHNIK GMBH; ANT NACHRICHTENTECHNIK GMBH, 7150 BACKNAN) 2 February 1984 (1984-02-02) page 8, lines 13-17 figure 1	2-5,7
A	US 5 781 420 A (XIA ET AL) 14 July 1998 (1998-07-14) cited in the application abstract figure 1	1-7

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the International search

26 January 2005

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02/02/2005

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Int. Patent Application No.  
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6373722	B1	16-04-2002	CN 1328279 A 26-12-2001
			GB 2364605 A ,B 30-01-2002
			JP 3405727 B2 12-05-2003
			JP 2002027760 A 25-01-2002
DE 3210567	A1	02-02-1984	NONE
US 5781420	A	14-07-1998	AT 242562 T 15-06-2003
			CN 1229536 A ,B 22-09-1999
			DE 69722625 D1 10-07-2003
			DE 69722625 T2 13-05-2004
			EP 0913026 A1 06-05-1999
			WO 9804028 A1 29-01-1998
			US 5886881 A 23-03-1999
			US 5986899 A 16-11-1999
			US 6141224 A 31-10-2000
			US 6278621 B1 21-08-2001